

WHAT IS CLAIMED IS:

1. An electrophotographic display, comprising:
a plurality of microcapsules each
encapsulating therein an insulating liquid and a
5 plurality of charged electrophoretic particles
dispersed in the insulating liquid,
a first substrate and a second substrate
disposed opposite to each other so as to sandwich said
plurality of microcapsules, and
10 a plurality of electrodes capable of being
supplied with a voltage,
wherein a voltage is applied between said
plurality of electrodes to move said charged
electrophoretic particles between a first internal
15 wall portion of each microcapsule an external surface
of which contacts said first substrate and a second
internal wall portion of each microcapsule an external
surface of which is substantially out of contact with
both said first and second substrates, thereby to
20 switch a display state.

2. A display according to Claim 1, wherein said
plurality of electrodes comprise a first electrode
disposed along said first substrate and a second
25 electrode which is electrically isolated from the
first electrode and is disposed at least a part of a
space enclosed with said first and second substrates

and the surfaces of microcapsules.

3. A display according to Claim 2, wherein the
second electrode is filled in at least a part of the
5 space.

4. A display according to Claim 2, wherein the
second electrode comprises an electroconductive member
and is filled in at least a part of the space.

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5. A display according to Claim 4, wherein the
electroconductive member comprises a liquid.

6. A display according to Claim 4, wherein the
15 electroconductive member comprises a metal.

7. A display according to Claim 2, wherein the
second electrode is formed and disposed on the first
substrate or the second substrate in the form of a
20 projection.

8. A display according to Claim 2, wherein the
second electrode is formed and disposed on an upper or
lower surface or within a member which is formed on
25 the first substrate or the second substrate in the
form of a projection.

9. A display according to any Claim 2, wherein each microcapsule has a flattened shape.

10. A display according to Claim 2, wherein each
5 microcapsule has a flattened and rectangular shape and is in surface contact with the first electrode.

11. A display according to Claim 2, wherein said microcapsules are disposed on a random basis
10 irrespective of a position of the first electrode.

12. A display according to Claim 2, wherein each microcapsule is disposed in alignment with a position of the first electrode.
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13. A display according to Claim 2, wherein the first electrode has a projected surface toward the second substrate.

20 14. A display according to Claim 2, wherein the second electrode is a common electrode for all pixels.

15. A display according to Claim 2, wherein a third electrode is disposed on the second substrate.
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16. A display according to Claim 2, wherein the display has a plurality of pixels each comprising a

plurality of microcapsules, and the second electrode is disposed at a boundary between mutually adjacent two pixels.

5 17. A process for producing an electrophoretic display including a plurality of microcapsules each encapsulating therein an insulating liquid and a plurality of charged electrophoretic particles dispersed in the insulating liquid, a first substrate
10 and a second substrate disposed opposite to each other so as to sandwich the plurality of microcapsules, a first electrode disposed along the first substrate and a second electrode which is electrically isolated from the first electrode and is disposed at least a part of
15 a space enclosed with the first and second substrates and the surfaces of microcapsules; said process comprising:

(1) a step of forming the first electrode on the first substrate,

20 (2) a step of disposing the plurality of microcapsules on the first or second substrate,

(3) a step of disposing the first and second substrate so as to sandwich the plurality of microcapsules, and

25 (4) a step of forming the second electrode in a space between adjacent microcapsules before or after the step (3).

18. A process according to Claim 17, wherein the step (4) of forming the second electrode is performed after the step (3) and includes a step of
5 incorporating an electroconductive member in a space between the first and second substrates.

19. A process according to Claim 17, wherein the step (4) of forming the second electrode is performed
10 after the step (3) and includes a step of injecting an electroconductive member in the space between adjacent microcapsules from an injection port disposed in a position where the injection port contacts the space.

15 20. A process according to Claim 17, wherein the step (4) of forming the second electrode is performed before the step (3) and includes a step of disposing each microcapsule between adjacent second electrodes formed on the first and second substrates in the form
20 of a projection.

21. A process according to Claim 17, wherein the step (4) of forming the second electrode is performed before the step (3) and includes a step of forming the
25 second electrode in the space between adjacent microcapsules by electroplating.

22. A process according to Claim 17, wherein the process further comprises, after the step (3), a step of flattening the microcapsule by applying a pressure to the first and second substrates.

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23. A process for producing an electrophoretic display including a plurality of microcapsules each encapsulating therein an insulating liquid and a plurality of charged electrophoretic particles
10 dispersed in the insulating liquid, a first substrate and a second substrate disposed opposite to each other so as to sandwich the plurality of microcapsules, a first electrode disposed along the first substrate and a second electrode which is electrically isolated from
15 the first electrode and is disposed at least a part of a space enclosed with the first and second substrates and the surfaces of microcapsules; said process comprising:

a first step of preparing a laminated
20 structure including an insulating layer and a projection-shaped electroconductive member, as the second electrode, disposed on the insulating layer by forming the electroconductive member at a recess of a mold substrate, laminating the insulating layer on the
25 electroconductive member, and removing the laminated structure from the mold substrate,

a second step of disposing the plurality of

microcapsules so that the projection-shaped
electroconductive member is located between adjacent
microcapsules, and

5 a third step of bonding the first and second
substrates to each other by using the laminated
structure, in which the microcapsules are disposed, as
the first or second substrate.

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